This is the meaning of the God-idea, and this leads to the ideal of the God-man as conceived in Asia under the title Buddha and in Europe under the name Christ. Perhaps, if we only take away the belief in the letter of Christian dogmas, we may be in better agreement than President Boardman thinks. Though we may be antipodes now I have held and cherished the views which he espouses, and I feel still at home among my antipodes. P. C.

A MAGIC CUBE OF SIX.

The two very interesting articles on Oddly-Even Magic Squares by Messrs. D. F. Savage and W. S. Andrews, which appeared in

4	139	161	26	174	147
85	166	107	188	93	12
98	152	138	3	103	157
179	17	84	165	184	22
183	21	13	175	89	170
102	156	148	94	8	143

1

193	58	80	215	39	66
112	31	134	53	120	201
125	71	57	192	130	76
44	206	111	30	49	211
48	210	202	40	116	35
129	75	67	121	197	62

2

18	153	136	163	23	158
99	180	1	82	104	185
181	19	95	176	171	9
100	154	149	14	90	144
167	5	108	189	172	10
86	140	162	27	91	145

3

207	72	55	28	212	77
126	45	190	109	131	50
46	208	122	41	36	198
127	73	68	203	117	63
32	194	135	54	37	199
113	59	81	216	118	64

4

155	20	150	15	169	142
101	182	96	177	88	7
6	87	106	187	92	173
141	168	160	25	11	146
151	16	137	83	105	159
97	178	2	164	186	24

5

74	209	69	204	34	61
128	47	123	42	115	196
195	114	133	52	119	38
60	33	79	214	200	65
70	205	56	110	132	78
124	43	191	29	51	213

6

Fig. 1.

the January number, might suggest the possibilities of extending those methods of construction into Nasik cubes. It is an interesting proposition and might lead to many surprising results.

Although the cube to be described here is not exactly of the nature mentioned above, it follows similar principles of construction and involves features quite unusual to cubes of this class.

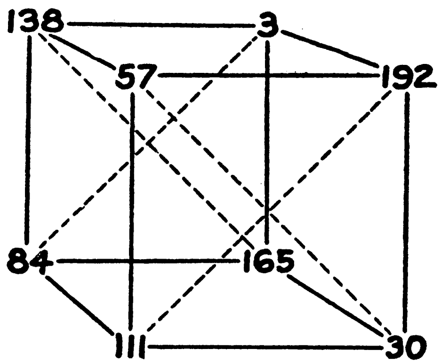

Fig. 2.

The six respective layers of this cube are shown in Fig. 1. All of its 108 columns, and its four oblique diagonals give the constant summation of 651. If we divide this into 27 smaller cubes, which we will call cubelets, of eight cells each, the six faces, and also two diagonal planes of any cubelet give constant summations. For example, we will note the central cubelet of the first and second layer, which is shown diagrammatically in Fig. 2. Its summations are as follows.

The six faces:

57	138	138	84	57	192
192	3	3	165	111	30
30	165	192	30	84	165
111	84	57	111	138	3
390	390	390	390	390	390

The two diagonal planes:

57	192
30	111
165	84
138	3
390	390

Also, if the sum of the eight cells in each of the cubelets be taken as a whole, we have a 3×3×3 cube with 37 summations, each amounting to 2604.

4	4	26	26	12	12
4	4	26	26	12	12
17	17	3	3	22	22
17	17	3	3	22	22
21	21	13	13	8	8
21	21	13	13	8	8

1

4	4	26	26	12	12
4	4	26	26	12	12
17	17	3	3	22	22
17	17	3	3	22	22
21	21	13	13	8	8
21	21	13	13	8	8

2

18	18	1	1	23	23
18	18	1	1	23	23
19	19	14	14	9	9
19	19	14	14	9	9
5	5	27	27	10	10
5	5	27	27	10	10

3

18	18	1	1	23	23
18	18	1	1	23	23
19	19	14	14	9	9
19	19	14	14	9	9
5	5	27	27	10	10
5	5	27	27	10	10

4

20	20	15	15	7	7
20	20	15	15	7	7
6	6	25	25	11	11
6	6	25	25	11	11
16	16	2	2	24	24
16	16	2	2	24	24

5

20	20	15	15	7	7
20	20	15	15	7	7
6	6	25	25	11	11
6	6	25	25	11	11
16	16	2	2	24	24
16	16	2	2	24	24

6

Fig. 3.

The construction of this cube is by La Hireian method, using two primary cubes, which are shown in Figs. 3 and 4. Fig. 3 contains 27 cubelets, each containing eight cells with eight equal numbers; the numbers in the respective cubelets ranking in order as the series, 1, 2, 3,. . . .27. These 27 cubelets are arranged according to

the methods of any $3 \times 3 \times 3$ cube. This gives us a primary cube with all the features of the final cube.

Fig. 4 is also divided into 27 cubelets, each of which must contain the series 0, 27, 54, 81, 108, 135, 162, 189. The arrangement of the numbers in these 27 cubelets must be such as will give the

0	5	5	0	6	5
3	6	3	6	3	0
3	5	5	0	3	5
6	0	3	6	6	0
6	0	0	6	3	6
3	5	5	3	0	5

1

7	2	2	7	1	2
4	1	4	1	4	7
4	2	2	7	4	2
1	7	4	1	1	7
1	7	7	1	4	1
4	2	2	4	7	2

2

0	5	5	6	0	5
3	6	0	3	3	6
6	0	3	6	6	0
3	5	5	0	3	5
6	0	3	6	6	0
3	5	5	0	3	5

3

7	2	2	1	7	2
4	1	7	4	4	1
1	7	4	1	1	7
4	2	2	7	4	2
1	7	4	1	1	7
4	2	2	7	4	2

4

5	0	5	0	6	5
3	6	3	6	3	0
0	3	3	6	3	6
5	6	5	0	0	5
5	0	5	3	3	5
3	6	0	6	6	0

5

2	7	2	7	1	2
4	1	4	1	4	7
7	4	4	1	4	1
2	1	2	7	7	2
2	7	2	4	4	2
4	1	7	1	1	7

6

Fig. 4.

primary cube all the required features of the final cube. The eight numbers of the cubelet series are, for convenience, divided by 27, and give the series 0, 1, 2, 3, 4, 5, 6, 7, which can easily be brought back to the former series after the primary cube is constructed.

To construct the cubelet, we divide the above series into two sets of four numbers each, so that the sums of the two sets are equal, and the complementaries of one set are found in the other. This division is 0, 5, 6, 3 and 7, 2, 1, 4, which separates the complementaries and gives two sets, each amounting to 14. We can place one set in any desired order on one face, and it only remains to place the four complementaries in the opposite face, so that the four lines connecting complementary pairs are parallel.

These cubelets are arranged in the primary cube with the 0, 5, 6, 3 faces placed in the 1st, 3d, and 5th layers, and the 7, 2, 1, 4 faces placed in the 2d, 4th, and 6th layers, which arrangement satisfies the summations perpendicular to the layers.

It now remains to adjust the pairs in the cubelets to suit the summations in the layers and the four diagonals. We first arrange the pairs that will give the diagonal summations, and by doing so, we set the position of four numbers in each of the layers 3 and 4, and eight numbers in each of the layers 1, 2, 5 and 6. We then arrange the remaining numbers in the layers 1, 3 and 5 to suit the twelve summations of each layer, which consequently locates the numbers for layers 2, 4 and 6, since complementary pairs must lie perpendicularly to the cubes layers. This gives us a primary cube such as that shown in Fig. 4.

The numbers in each cell of Fig. 4 must then be multiplied by 27, and added to the respective cells in Fig. 3, which combination gives us the final cube shown in Fig. 1.

HARRY A. SAYLES.

SCHENECTADY, N. Y.

MAGIC CUBE ON SIX.

FIRST OR TOP SQUARE.

106	8	7	212	209	109
199	116	113	16	12	195
196	114	115	11	15	200
21	203	202	103	100	22
17	205	208	99	104	18
112	5	6	210	211	107

SECOND SQUARE.

166	130	129	32	30	164
37	152	148	137	143	34
33	151	150	142	140	35
128	41	47	157	154	124
126	46	44	155	153	127
161	131	133	28	31	167